ZENNER USA
All that counts.

September 4, 2024

ZENNER USA, INC. COMMENT TO FCC PUBLIC NOTICE

Ref: WT Docket No.24-240

Introduction

ZENNER is a manufacturer and distributor of water meters and meter reading technology, commercial and domestic water meters for municipal use, small meters for sub metering flats and houses, as well as bulk water meters in addition to our portfolio of heat meters, gas meters and up to date systems technology. Zenner has been developing, producing and marketing innovative measuring equipment for global markets for over 113 years. We currently produce and market more than five million meters annually *(See zennerusa.com).*

ZENNER opposes the proposal submitted by NextNav Inc. to reconfigure the 902-928 MHz band, and urges protection of existing spectrum-sharing arrangements that allow for diverse and productive use of the 902-928 MHz band by amateur operators and other secondary users.

Effect of NextNav's Proposal to ZENNER

NextNav's proposed regulatory changes directly impact the smart metering solutions that are core to our operations. ZENNER operates several smart metering solutions for water and gas utilities. Our devices, operating under the Part 15 rules for this band, rely on the 902-928 MHz frequency band to deliver these solutions. The ZENNER smart metering solutions provide utilities with cost savings by tracking consumption with great accuracy and able to detect the smallest leaks, remote monitoring to send data to the main office without having to visit each meter and providing updates for the entire utility immediately, and data analysis which facilitates utilities to take conservation steps to the next level. These features provide great insight into utility operations, minimizing loss from leaks, protecting properties from damage with the ability to remotely shut off services, as well as better management and conservation of our natural resources. Zenner devices use this band to collect utility meter (water and gas) and other rate payer data for billing, leak detection, and many other services. A major impact will occur for these systems and the physical meters located in each household. These devices are supported by many gateways throughout each city to ensure highly reliable communication links which would also be majorly impacted by these proposed changes.

Allowing NextNav to monopolize and privatize the currently unlicensed spectrum for 5G broadband would cause interference to ZENNER devices greater than a 3-mile radius of every NextNav gateway and reduce the current available space segment by over 40 percent, which would be detrimental to ZENNER. This frequency band is crucial for tens of millions of existing smart home, smart building devices, industrial solutions, and multiple other low power wireless standards and solutions because every single device ever manufactured would need to be reconfigured for limited operations in the existing band or would need to be replaced with a device designed for a different frequency band.

The reallocation of this spectrum would potentially render these devices inoperative, and reconfiguring the devices will not only potentially cause widespread disruption but also result in billions of dollars in economic loss to thousands of commercial and non-commercial applications nationwide.

Potential Interference with Unlicensed Bands

It is concerning that while licensed operators on this band are protected from interference, Part 15 unlicensed devices that also operate in the band are not typically afforded interference protection. According to the public Notice DA 24-776 released on August 6, 2024, NextNav states that it "will work with unlicensed users to understand their spectrum requirements." As stated, Commission rules intended to ensure coexistence between services require M-LMS licensees to demonstrate through field tests that their systems do not cause unacceptable levels of interference to part 15 devices. The proposal however, lacks specific, enforceable protections. There are no guarantees that the proposed changes would not cause "unacceptable levels of interference to part 15 devices." The unclear status of how NextNav's proposed license modification would avoid interfering with Part-15 devices adds to the uncertainty and potential for harmful interference.

This, combined with the introduction of high-powered 5G services, threatens to disrupt the delicate balance that currently allows for effective spectrum sharing. The assertion that these changes "will not impede amateur operations" is unsubstantiated and overlooks the practical realities faced by businesses like us that actively use this spectrum.

The economic cost to migrate these systems will be significant

The proposed changes, if approved would render those frequencies unusable for more than 750,000 amateur operators in the U.S. Feasibility and Interference surveys will be needed prior to committing to new frequency equipment. Public agencies will incur re-engineering costs. The cost of relocation as stated above includes redevelopment of our products for the new RF band, cost of manufacturing millions of new devices, new FCC certifications for all device types, labor to remove millions of current devices, and labor to install millions of replacement devices. This effort would take 10 to 12 years to complete. The relocation costs would be over 125 million dollars, and the loss in projected work would be over $600 million in Zenner projects whose services are in great demand. This cost would ultimately fall on the public utilities and therefore the citizens of the United States.

NextNav did not address how and at what expense it will contribute in moving the existing operations in the band and or the replacement of equipment, even the inconvenience of it all. It is not enough for NextNav's to say they would work with incumbents. They need to expound on exactly how they intend to work especially with unlicensed Part 15 users; Without a detailed explanation from NextNav on how it plans to prevent harmful interference with Zenner devices and thousands of all other users, the statement that unlicensed users will be unaffected by the proposal is unsubstantiated which, needless to say, results in a very costly venture.

Conclusion

The prejudicial effect of NextNav’s proposal is so substantial that loss of access to this band would not only stifle innovation but also compromise the significant investments made by the various businesses. NextNav has not demonstrated that any modifications it makes will ensure the continued coexistence of services within this spectrum without causing undue harm or interference to existing operations. There is a large amount of existing equipment operating in this bandwidth that will be difficult or impossible to recall and decommission. Moreover, services being provided by part 15 devices and amateur operations in this band cannot be accommodated in other spectrum bands without extreme economic hardship.

Given these factors, it is Zenner’s position that the FCC denies NextNav’s request to modify their license and that Nextnav finds alternative ways to extend and enhance the GPS system.